In the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims

Claims 1-13 (canceled).

Claim 14 (currently amended) A method for producing laser radiation comprising the steps of:

(a) providing an optical pumping source for producing optical pumping radiation;

~~(a)~~(b) arranging a Brewster-cut frequency conversion crystal in a first configuration ~~of two possible directions~~ for frequency conversion, wherein a beam of the optical pumping source passes through the crystal in a first direction, and the normal of a first entrance surface of the Brewster-cut frequency conversion crystal forms a Brewster angle with the beam of the optical pumping source, and measuring a first output power of the converted radiation;

~~(b)~~(c) arranging the Brewster-cut frequency conversion crystal in ~~the~~ a second configuration, ~~of the two possible directions~~ for frequency conversion, wherein the beam passes through the crystal in a second direction, the second direction being the reversed direction of the first beam path direction, the second configuration being obtained by rotating the crystal by 180 degrees with respect to the first arrangement about an axis perpendicular to the horizontal cross section of the crystal, the normal of a second entrance surface of the Brewster-cut frequency conversion crystal forming a Brewster angle with the beam of the optical pumping source, and measuring a second output power of the converted radiation;

~~(c)~~(d) determining a preferred beam path direction of a frequency conversion crystal by determining the ~~direction~~ configuration of the first and second configurations which results in a higher output power of the converted radiation over time; and

~~(d)~~(e) amplifying radiation of an optical pumping source by using an optical cavity having at least one frequency conversion crystal disposed such that said crystal is passed by the radiation only in the predetermined preferred beam path direction.

Claim 15 (currently amended) A method for producing laser radiation comprising the steps of:

(a) providing an optical pumping source for producing optical pumping radiation;

(b) providing a unidirectional ring cavity comprising a single Brewster-cut frequency conversion crystal, a single prism and a mirror arrangement;

(c) arranging the Brewster-cut frequency conversion crystal in a first ~~of two possible~~ directions for frequency conversion, wherein a beam of the optical pumping source passes through the crystal in a first direction, and the normal of a first entrance surface of the Brewster-cut frequency conversion crystal forms a Brewster angle with the beam of the optical pumping source, and measuring a first output power of the converted radiation;

(d) arranging the frequency conversion crystal in ~~the~~ a second configuration~~of the two possible directions~~ for frequency conversion, wherein the beam passes through the crystal in a second direction, the second direction being the reversed direction of the first beam path direction, the second

configuration being obtained by rotating the crystal by 180 degrees with respect to the first arrangement about an axis perpendicular to plane of the ring cavity, the normal of a second entrance surface of the Brewster-cut frequency conversion crystal forming a Brewster angle with the beam of the optical pumping source, and measuring a second output power of the converted radiation;

~~(e)~~(f) determining a preferred beam path direction of a frequency conversion crystal by determining the ~~direction~~ configuration of the first and second configurations, which results in a higher output power of the converted radiation over time; and

~~(f)~~(g) amplifying radiation of an optical pumping source by using an optical cavity having at least one frequency conversion crystal disposed such that said crystal is passed by the radiation only in the predetermined preferred beam path direction.

Claim 16 (previously presented): The method for producing laser radiation according to claim 15, further comprising the steps of:
providing coupling optics disposed between an optical pumping source and a ring cavity.

Claim 17 (previously added): The method for producing laser radiation according to claim 16, wherein the ring cavity is an external resonant unidirectional cavity.

Claim 18 (previously added): The method for producing laser radiation according to claim 17, wherein frequency conversion crystal is a Brewster-cut Beta-Borium Borate (b -BaB_2O_4 or BBO) crystal or a Lithium Triborate (LiB_3O_5 or LBO) crystal.

Claim 19 (previously added): The method for producing laser radiation according to claim 18, further comprising the step of providing a stage amplifier.

Claim 20 (previously added): The method for producing laser radiation according to claim 16, further providing the step of connecting the prism to a piezoelectric element.

Claim 21 (new) A method for producing laser radiation comprising the steps of:

(a) arranging an uncoated cubic frequency conversion crystal in a first direction for frequency conversion, wherein a beam of the optical pumping source passes through the crystal in a first direction, and wherein the normal of a first entrance surface of the cubic frequency conversion crystal is parallel with the beam of an optical pumping source, and measuring a first output power of the converted radiation;

(b) arranging the cubic frequency conversion crystal in a second configuration for frequency conversion, wherein the beam passes through the crystal in a second direction, the second direction being the reversed direction of the first beam path direction, the second configuration being obtained by rotating the crystal by 180 degrees with respect to the first arrangement about an axis perpendicular to the horizontal cross section of the crystal, and wherein the normal of a second entrance surface of the cubic frequency conversion crystal is parallel with the beam of the optical pumping source, and measuring a second output power of the converted radiation;

(c) determining a preferred beam path direction of a frequency conversion crystal by determining the configuration of the first and second configurations, which results in a higher output power of the converted radiation over time.

(d) coating the output surface of the cubic frequency conversion crystal in respect

with preferred beam path direction which corresponds to the entrance surface of the configuration, which results in a lower output power of the converted radiation; and

(e) amplifying radiation of an optical pumping source by using an optical cavity having at least one frequency conversion crystal disposed such that said crystal is passed by the radiation only in the predetermined preferred beam path direction.

Claim 22 (new) A method for producing laser radiation comprising the steps of:

(a) providing an optical pumping source for producing optical pumping radiation;

(b) arranging a Brewster-cut frequency conversion crystal in a first configuration of two possible directions for frequency conversion, wherein a beam of the optical pumping source passes through the crystal in a first direction, and the normal of a first entrance surface of the Brewster-cut frequency conversion crystal forms a Brewster angle with the beam of the optical pumping source, and measuring a first output power of the converted radiation;

(c) arranging the Brewster-cut frequency conversion crystal in the a second configuration, of the two possible directions for frequency conversion, wherein the beam passes through the crystal in a second direction, the second direction being the reversed direction of the first beam path direction, the second configuration being obtained by rotating the crystal by 180 degrees with respect to the first arrangement about an axis perpendicular to the horizontal cross section of the crystal, the normal of a second entrance surface of the Brewster-cut frequency conversion crystal forming a Brewster angle with the beam of the optical pumping source;

and measuring a second output power of the converted radiation:

(d) determining a preferred beam path direction of a frequency conversion crystal by determining theat direction configuration of the first and second configurations which results in a higher output power of the converted radiation over time;

(e) marking the frequency conversion crystal before mounting the frequency conversion crystal into the ring cavity; and

(f) amplifying radiation of an optical pumping source by using an optical cavity having at least one frequency conversion crystal disposed such that said crystal is passed by the radiation only in the predetermined preferred beam path direction.

Claim 23 (new) A method for producing laser radiation according to claim 15, wherein after the determination of the preferred beam path direction and prior to the amplification of the radiation, the method further comprises the step of: marking the frequency conversion crystal before mounting the frequency conversion crystal into the ring cavity.

Claim 24 (new) A method for producing laser radiation according to claim 21, wherein after the determination of the preferred beam path direction and prior to the amplification of the radiation, the method further comprises the step of marking the frequency conversion crystal before mounting the frequency conversion crystal into the ring cavity.